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Notice of Allowability	Application No.	Applicant(s)	
	10/087,716	OECHSNER, MATTHIAS	
	Examiner	Art Unit	
	Jennifer C McNeil	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/26/04.
2. ☒ The allowed claim(s) is/are 1,4-7,10-12 and 21-32,35-37.
3. ☒ The drawings filed on 01 March 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

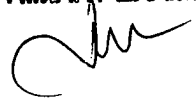
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|---|--|

JENNIFER MCNEIL
PRIMARY EXAMINER


EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Maire on February 4, 2005.

The application has been amended as follows:

IN THE CLAIMS:

Claim 1, line 7, after "inclusions" insert --having a coefficient of thermal expansion greater than that of the ceramic material--.

Claim 7, line 3, after "inclusions" insert --having a coefficient of thermal expansion greater than that of the ceramic material--.

Claim 21, line 4, after "voids" insert --formed from inclusions having a coefficient of thermal expansion greater than that of the ceramic material and--.

Claim 22, line 4, after "inclusions" insert --having a coefficient of thermal expansion greater than that of the ceramic material and--.

Cancel claims 33 and 34.

Claim 36, line 9, after "material" insert --, wherein the inclusions comprise a material exhibiting a coefficient of thermal expansion that is greater than a coefficient of thermal expansion of the ceramic material--.

Cancel claim 38.

The following is an examiner's statement of reasons for allowance: The prior art of record does not teach or provide motivation to form a component adapted for operation at an elevated

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temperature, wherein the component comprises a substrate, a thermal barrier coating on the substrate, the thermal barrier coating comprising a layer of ceramic material, a plurality of inclusions having a CTE greater than the CTE of the material disposed below a free surface of the ceramic material, and a crack extending from respective ones of the plurality of the inclusions to a free surface of the ceramic material.

The reference of Seals '628 teaches a thermal barrier coating having hollow ceramic particles in a matrix of YSZ. The hollow particles may include silica. Upon further investigation, the CTE of silica is not greater than the CTE of zirconia, therefore the reference does not meet the limitations of the claims. The CTE of silica is approximately 0.55×10^{-6} , whereas the CTE of zirconia is approximately 10.3×10^{-6} . Furthermore, Seals does not teach or provide motivation to provide inclusions having a greater CTE than that of the ceramic matrix, which would then form a cracks extending from respective ones of the plurality of the inclusions to a free surface of the ceramic matrix material.

Regarding the declaration submitted by applicant November 26, 2004, it is considered to provide only an opinion and is not based upon factual evidence or argument. The declaration was not found to be persuasive.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer C McNeil whose telephone number is 571-272-1540. The examiner can normally be reached on 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer McNeil
February 5, 2005

JENNIFER MCNEIL
PRIMARY EXAMINER